

**TERVISHOIUTOODETE STERILISEERIMINE. KEEMILISED
NÄITAJAD. OSA 1: ÜLDISED NÕUDED**

**Sterilization of health care products - Chemical
indicators - Part 1: General requirements (ISO 11140-
1:2014)**

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN ISO 11140-1:2014 sisaldab Euroopa standardi EN ISO 11140-1:2014 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11140-1:2014 consists of the English text of the European standard EN ISO 11140-1:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.11.2014.	Date of Availability of the European standard is 12.11.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 11.080.01

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

**Sterilization of health care products - Chemical indicators - Part
1: General requirements (ISO 11140-1:2014)**

Stérilisation des produits de santé - Indicateurs chimiques -
Partie 1: Exigences générales (ISO 11140-1:2014)

Sterilisation von Produkten für die Gesundheitsfürsorge -
Chemische Indikatoren - Teil 1: Allgemeine Anforderungen
(ISO 11140-1:2014)

This European Standard was approved by CEN on 23 August 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 11140-1:2014) has been prepared by Technical Committee ISO/TC 198 "Sterilization of health care products" in collaboration with Technical Committee CEN/TC 102 "Sterilizers for medical purposes" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2015, and conflicting national standards shall be withdrawn at the latest by May 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11140-1:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 11140-1:2014 has been approved by CEN as EN ISO 11140-1:2014 without any modification.

Annex ZA (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 93/42/EC on medical devices

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 93/42/EC on medical devices.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 93/42/EC on medical devices

Clause(s)/sub-clause(s) of this EN ISO 11140-1	Essential Requirements (ERs) of Directive 93/42/EC	Qualifying remarks/Notes
5.9	7.2	release of toxic substances
6.2.2		transfer type 1
6.4.2		transfer type. 3 – 6
7.2		test procedure
5.8 g)	7.3, 1 st part	Interfering substances
5.8 h)		Safety precautions required during and/or after use
6.2.2		Bleed and offset
4.1; 4.2; 5; 6.1; 6.2; 7; 8	8.7	type 1 indicator
5.8	13.1	Instructions for use
5.6, 5.7	13.2	Symbols
5.4, 5.6, 5.7, 5.8 i), 5.8 k)	13.3 a), b)	Labelling
4		Classification of indicators
5.2		Critical variables and stated values
5.8 j)	13.3 c)	Labelling
5.4, 5.6, 5.7, 5.8 i), 5.8 k)	13.3 d)	Labelling
4		Classification of indicators
5.2		Critical variables and stated values
5.8 j)	13.3 e), f), g), h)	Labelling, expiry date.

Clause(s)/sub-clause(s) of this prEN ISO 11140-1	Essential Requirements (ERs) of Directive 93/42/EC	Qualifying remarks/Notes
5.8 e)	13.3 i)	Storage
5.8 g)		Interfering substances
5.8	13.3 j)	Instructions for use
5.8 h)	13.3 k)	Safety precautions
5.4, 5.6, 5.7, 5.8 i), 5.8 k)	13.3 l)	Labelling
4		Classification of indicators
5.2		Critical variables and stated values
5.8 j)	13.3 m), n)	Labelling
5.4	13.4	Marking
5.8	13.6 a)	Marking
5.8	13.6 b)	Marking
5.8 h)	13.6 e)	Instructions after use
5.9		Toxicity declaration
5.8 g)	13.6 f)	Interfering substances
5.8 h)	13.6 g), h), j), k), l), m), n), o), p)	Instructions after use
5.9		Toxicity declaration

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Categorization	4
4.1 General	4
4.2 Type 1: process indicators	4
4.3 Type 2: indicators for use in specific tests	5
4.4 Type 3: single critical process variable indicators	5
4.5 Type 4: multicritical process variable indicators	5
4.6 Type 5: integrating indicators	5
4.7 Type 6: emulating indicators	5
5 General requirements	5
6 Performance requirements	8
6.1 General	8
6.2 Type 1 indicators	9
6.3 Type 2 indicators	9
6.4 Types 3, 4, 5 and 6 indicators	9
7 Test methods	9
7.1 General	9
7.2 Off-set (transference)	9
7.3 Procedure — Steam indicators	9
7.4 Procedure — Dry heat indicators	10
7.5 Procedure — EO indicators	10
7.6 Procedure — Low temperature steam and formaldehyde indicators	11
7.7 Procedure — Vaporized hydrogen peroxide indicators	11
8 Additional requirements for process (Type 1) indicators	12
8.1 Process indicators printed or applied on to packaging material	12
8.2 Process indicators for steam sterilization processes	12
8.3 Process indicators for dry heat sterilization processes	12
8.4 Process indicators for ethylene oxide sterilization processes	13
8.5 Process indicators for radiation sterilization processes	13
8.6 Process indicators for low temperature steam and formaldehyde sterilization processes	14
8.7 Process indicators for vaporized hydrogen peroxide sterilization processes	14
9 Additional requirements for single critical process variable (Type 3) indicators	15
10 Additional requirements for multicritical process variable (Type 4) indicators	15
11 Additional requirements for steam integrating (Type 5) indicators	16
12 Additional requirements for ethylene oxide integrating (Type 5) indicators	17
13 Additional requirements for emulating (Type 6) indicators	17
Annex A (normative) Method for demonstrating shelf-life of the product	19
Annex B (informative) Examples of testing indicators	20
Annex C (informative) Rationale for the requirements for integrating indicators and the link to the requirements for biological indicators specified in ISO 11138 (all parts) and microbial inactivation	22
Annex D (informative) Rationale for the liquid-phase test method for low temperature steam and	

formaldehyde indicators	29
Annex E (informative) Relationship of indicator and indicator system components	30
Bibliography	31

This document is a preview generated by EVS